

WHAT IS CLAIMED IS:

1. A method for suppressing silence in bi-directional communications between a centralized node and a plurality of local nodes in an asynchronous network environment, comprising the steps of:

detecting a silent period in an upstream channel, said upstream channel transmitting data from a local node; and

deactivating unsolicited grant service in response to said detecting a silent period.

2. A method of claim 1, further comprising the step of receiving an activity message from the local node to detect said silent period.

3. A method of claim 2, further comprising the step of receiving said activity message in a contention mini-slot.

4. A method of claim 2, wherein said activity message includes a silence flag marked to designate the start of a silent period.

5. A method of claim 1, further comprising the step of detecting said silent period in response to the number of unused grants exceeding a predetermined threshold.

6. A method of claim 1, further comprising the step of reducing downstream transmissions to the local node in response to said detecting a silent period.

7. A method of claim 1, further comprising the step of reactivating unsolicited grant service upon receipt of an activity message.

8. A method of claim 7, wherein said activity message is a bandwidth request.

9. A method of claim 7, further comprising the step of receiving said activity message in a contention mini-slot.

10. A method of claim 7, further comprising the step of receiving said activity message as a piggyback request in a grant.

11. A method of claim 1, further comprising the step of detecting silence in an upstream channel transmitting voice data.

12. A method of claim 1, further comprising the step of detecting silence in an upstream channel transmitting voice data over an internet protocol.

13. A method of claim 1, wherein said step of detecting a silent period, further comprises the step of receiving a signal from an activity detector indicating silence.

14. A method of claim 1, further comprising the step of reactivating unsolicited grant service upon receipt of a signal from an activity detector indicating activity.

15. A method for compressing silence in bi-directional communications between a centralized node and a plurality of local nodes in an asynchronous network environment, comprising the steps of:

detecting a silent period in an upstream channel, said upstream channel transmitting data from a local node; and

reducing unsolicited grant service in response to said detecting a silent period.

16. A method of claim 15, further comprising the step of receiving an activity message from the local node to detect said silent period.
17. A method of claim 16, wherein said activity message includes a silence flag marked to designate the start of a silent period.
18. A method of claim 15, further comprising the step of detecting said silent period in response to a reduction in grant usage.
19. A method of claim 15, further comprising the step of reactivating unsolicited grant service upon receipt of an activity message.
20. A method of claim 15, further comprising the step of detecting silence in an upstream channel transmitting voice data.
21. A method of claim 15, further comprising the step of detecting silence in an upstream channel transmitting voice data over an internet protocol.
22. A method of claim 15, wherein said step of detecting a silent period, further comprises the step of receiving a signal from an activity detector indicating silence.
23. A method of claim 15, further comprising the step of reactivating unsolicited grant service upon receipt of a signal from an activity detector indicating activity.
24. A method of determining the number of contention mini-slots required for voice priority, comprising the steps of:
 - determining a number of calls in silent state;

calculating the number of contention mini-slots required to restrict the probability of collusion to a specific value;

indicating said calculated number of contention mini-slots to CMTS scheduler;

allocating said calculated number of contention mini-slots for the voice priority; and

using the voice priority contention mini-slots to send a bandwidth request to reactivate the call.

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